

Name _____ Date _____

ADDING AND SUBTRACTING RADICALS

Simplify each radical expression

1. $12\sqrt{3} - 7\sqrt{3} + 4\sqrt{3} =$
2. $5\sqrt[3]{6} - 2\sqrt[3]{6} - 17\sqrt[3]{6} =$
3. $3\sqrt{75} + 4\sqrt{27} - 7\sqrt{48} =$
4. $5\sqrt[3]{16} + 9\sqrt[3]{2} - 4\sqrt[3]{54} =$
5. $7\sqrt{45} - 8\sqrt{20} - 3\sqrt{80} =$

Simplify each radical expression

6. $(7 + \sqrt{6})(3 + \sqrt{6})$	7. $(9 - \sqrt{5})(9 + \sqrt{5})$
8. $(8 + 7\sqrt{3})(5 - 4\sqrt{3})$	9. $(6 - 5\sqrt{2})(6 + 5\sqrt{2})$

Simplify each radical expression

10. $\frac{8 + \sqrt{3}}{5 - \sqrt{3}} =$
11. $\frac{3 - 7\sqrt{2}}{8 + 4\sqrt{2}} =$
12. $\frac{7 + 4\sqrt{6}}{4 + 5\sqrt{6}} =$